WO 2005/051128

5

:

PCT/GB2004/004340

27

## **CLAIMS**

- 1. A lift-recliner chair comprising a base portion, a seat portion pivotally connected to the base portion, a back portion pivotally connected to the seat portion and actuator means for moving the seat portion with respect to the base portion and the back portion with respect to the seat portion to alter the configuration of the chair, wherein the said actuator means is substantially enclosed within the base portion in all configurations of the chair.
- 2. A lift-recliner chair as claimed in Claim 1 wherein the seat portion is movable between a substantially horizontal position in which at least part of the seat portion is nested with the base portion and an inclined position in which the seat is telescopically extended from the base.
- 3. A lift recliner chair as claimed in Claim 1 or Claim 2 wherein the seat portion is nested within and extendable from the base portion
- 4. A lift-recliner chair as claimed in any of Claims 1 to 3 wherein the base portion comprises a front and a back panel and a pair of substantially vertical side panels between the front and back panels, and the said seat portion comprises a seat frame including a pair of substantially vertical side panels arranged substantially parallel with and adjacent to the respective base portion side panels.

- 5. A lift-recliner chair as claimed in Claim 4 wherein the seat portion is pivoted with respect to the base portion about a pivot axis positioned towards the front of the base portion.
- 5 6. A lift recliner chair as claimed in Claim 4 or Claim 5 wherein the seat portion is pivotally connected to the said side panels.
  - 7. A lift-recliner chair as claimed Claim 5 or Claim 6 wherein the back portion comprises a generally rectangular frame and a pair of pivot arms which extend from the frame and pivotally connect the frame to the seat portion.
  - 8. A lift recliner chair as claimed in Claim 7 wherein the pivot arms pivotally connect the back portion to the side panels of the seat portion.
- 9. A lift-recliner chair as claimed in Claim 7 or Claim 8 wherein the pivot arms comprise part of a bell-crank arrangement for moving the back portion about a pivot axis spaced from the said rectangular frame.
- 10. A lift-recliner chair as claimed in any one of Claims 7 to 9 wherein the pivot arms extend parallel with and adjacent to respective vertical side panels of the seat portion on an interior side thereof.

- 11. A lift-recliner chair as claimed in any preceding claim wherein the said back portion pivots away from the seat portion when the seat portion is moved towards an inclined position.
- 5 12. A lift recliner chair as claimed in Claim 11 wherein the said back portion pivots away from the seat portion when the seat portion is moved to a pre-determined position between the lowered and inclined position of the seat portion.
- 13. A lift-recliner chair as claimed in any preceding claim wherein the said
   10 actuator means comprises a first actuator for moving the said seat portion and a second actuator for moving the back portion.
  - 14. A lift-recliner chair as claimed in any preceding claim wherein the said first and second actuators are mounted in fixed relation to the base portion.
  - 15. A lift-recliner chair as claimed in any one of Claims 1 to 13 wherein the said

fixed in relation to the seat portion.

- first actuator is fixed in relation to the base portion and the said second actuator is
- 20 16. A lift-recliner chair as claimed in Claim 4 or any of Claims 5 to 13 when dependent directly or indirectly on Claim 4 wherein the front panel of the base is pivotally movable with respect to the side and rear panels of the base for movement from a generally vertical position to a generally horizontal position.

WO 2005/051128

15

.

PCT/GB2004/004340

- 30
- A lift-recliner chair as claimed in Claim 16 wherein the said actuator means comprises a third actuator fixed in relation to the fixed side panels of base for moving the said front panel about its pivot axis.
- A lift-recliner chair as claimed in Claim 16 or Claim 17 wherein the said front panel is pivotally moveable with respect to the base portion about a pivot axis corresponding substantially to the position of the seated user's knee joint.
- 19 A lift recliner chair as claimed in any one of Claims 16 to 18 wherein the pivot axis of the said front panel is coincident with the pivot axis connecting the seat portion to the base portion.
  - A recliner chair comprising a base portion, a seat portion, and a back portion pivotally mounted with respect to the seat portion, and actuator means for moving the back portion about its pivot axis between a generally upright position and a reclined position, wherein the said actuator means is enclosed within the base portion on the underside of the seat.
- A recliner chair as claimed in Claim 20 wherein the base portion comprises a front panel pivotally mounted with respect to the seat portion and wherein the said actuator means comprises a first actuator for moving the back portion about its pivot axis and a second actuator for moving the front panel about its pivot axis from a generally vertical orientation to a generally horizontal orientation.

20

PCT/GB2004/004340

WO 2005/051128

31

- A recliner chair comprising a base portion, a seat portion, and a back portion pivotally mounted with respect to the base portion, the base portion having a pair of lateral side panels and a front panel pivotally mounted with respect to the said side panels, and a common actuator for moving both the back portion about its pivot axis and the front panel about its pivot axis to alter the configuration of the chair form a generally up-right configuration to a generally reclined configuration, wherein the back portion moves from a generally vertical to an inclined orientation and the front panel moves from a generally vertical to a generally horizontal orientation.
- A recliner chair as claimed in Claim 22 further comprising a first cam means for determining the movement path of the back portion with respect to the base portion.
- A recliner chair as claimed in Claim 22 or Claim 23 further comprising a second cam means for determining the movement path of the front panel with respect to the side panels..
  - A recliner chair as claimed in Claim 24 wherein the said first and second cam means are engaged by a cam engagement means connected to the said actuator.
  - A recliner chair as claimed in Claim 25 wherein the said cam engagement means is pivotally mounted with respect to the sides of the said base portion for pivotal movement by the said actuator.

10

15

32

- A recliner chair as claimed in Claim 26 wherein the said first and second cam means are pivotally mounted with respect to the said sides of the base portion.
- A recliner chair as claimed in Claim 27 wherein the said first and second cam

  means are pivotally mounted about a common pivot axis.
  - A recliner chair as claimed in any one of claims 25 to 28 wherein the cam engagement means comprises at least one engagement pin, and the said first and second cam means comprise first and second pin engagement slots engaged by the said pin.
  - A recliner chair as claimed in Claim 29 wherein the said first and second slots are provided in respective first and second cam plates pivotally mounted in the interior of the base portion of the chair on both lateral sides thereof, each pair of first and second cam slots being engaged by a respective engagement pin.
  - A recliner chair as claimed in any one of Claims 22 to 30 wherein the actuator comprises a linear actuator.
- 20 32 A recliner chair as claimed in any one of Claims 22 to 31 wherein the said actuator means is enclosed within the said base portion on the underside of the seat.